CLAIMS

1. A fuel injection valve of a diesel engine having a combustion chamber which is in a form of a shallow dish on a top face of a piston, the fuel injection valve comprising:

a plurality of first nozzle holes provided on a same circumference of a part, of the fuel injection valve, projecting toward the combustion chamber; and

a plurality of second nozzle holes provided on a circular side wall, of the fuel injection valve, opposite to a tip part of the fuel injection valve with respect to the first nozzle holes, in which each of the second nozzle holes has a diameter smaller than a diameter of each of the first nozzle holes,

wherein the first nozzle holes and the second nozzle holes are arranged in a staggered form so that fuel sprays injected from the first nozzle holes and fuel sprays injected from the second nozzle holes do not cross one another in the combustion chamber.

2. The fuel injection valve of the diesel engine as claimed in claim 1, wherein a top clearance for allowing a valve recess not to be formed and a bore diameter of the combustion chamber on the top face of the piston are set such that the fuel sprays injected from the second nozzle

holes collide against an opening part of the combustion chamber on the top face of the piston when the piston is positioned near a top dead center.

3. The fuel injection valve of the diesel engine as claimed in claim 1 or 2, wherein the number of the first nozzle holes is larger than the number of the second nozzle holes.

4. The fuel injection valve of the diesel engine as claimed in claim 1, wherein a fuel valve nozzle hole angle of each of the second nozzle holes is set such that the fuel sprays injected from the second nozzle holes are diffused in a top clearance part after the fuel sprays collide against the piston.

5. The fuel injection valve of the diesel engine as claimed in claim 1, wherein a nozzle hole angle of each of the first nozzle holes is set such that the fuel sprays injected from the first nozzle holes collide against a bottom surface of the combustion chamber and such that the fuel sprays injected therefrom do not adhere to the bottom surface thereof.

6. The fuel injection valve of the diesel engine as claimed in claim 1, wherein the first nozzle holes are equally spaced on the same circumference of the fuel injection valve, and the second nozzle holes are equally spaced on a same circumference of the fuel injection valve.

7. The fuel injection valve of the diesel engine as claimed in claim 1, wherein the first nozzle holes and the second nozzle holes are provided such that an intersecting point at which a center axis of the fuel injection valve and a centerline of a fuel spray injected from each of the first nozzle holes intersect to each other, does not coincide with an intersecting point at which the center axis of the fuel injection valve and a centerline of a fuel spray injected from each of the second nozzle holes intersect to each other, in order to prevent the fuel sprays injected from the first nozzle holes and the fuel sprays injected from the second nozzle holes, from crossing one another.